

FACT SHEET FOR STATE WASTE DISCHARGE PERMIT ST-8046 CHEWELAH BASIN SKI CORPORATION

SUMMARY

This fact sheet is a companion document to the draft State Waste Discharge Permit No. 8045 for Chewelah Basin Ski Corporation, Stevens County. The Department of Ecology (the Department) is proposing to issue this permit.

This fact sheet explains the regulatory and technical basis for the conditions contained in the permit. Public involvement information is contained in the Appendix.

GENERAL INFORMATION

<u>Applicant:</u>	Chewelah Basin Ski Corporation
<u>Facility Name and Address:</u>	49° North 3311 Flowery Trail Road P.O. Box 166 Chewelah, WA 99109
<u>Type of Treatment:</u>	Single-cell, non-overflow earthen lined evaporation lagoon
<u>Design Information:</u>	5000 gallons/day average maximum month flow
<u>Treatment Plant Location:</u>	S½ of the NW¼ of Section 6, T.32 N., R. 42 E.W.M. Latitude: 48° 18' 10"N Longitude: 117° 33' 30"W

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INTRODUCTION

This fact sheet is a companion document to the draft State Waste Discharge Permit No. **ST-8046**

. The Department of Ecology (the Department) is proposing to issue this permit, which will allow discharge of wastewater to waters of the State of Washington. This fact sheet explains the nature of the proposed discharge, the Department's decisions on limiting the pollutants in the wastewater, and the regulatory and technical bases for those decisions.

Washington State law (RCW 90.48.080 and 90.48.162) requires that a permit be issued before discharge of wastewater to waters of the state is allowed. Regulations adopted by the State include procedures for issuing permits (Chapter 173-216 WAC), technical criteria for discharges from municipal wastewater treatment facilities (Chapter 173-221 WAC) and water quality criteria for ground waters (Chapter 173-200 WAC). They also establish the basis for effluent limitations and other requirements which are to be included in the permit.

This fact sheet and draft permit are available for review by interested persons as described in Appendix A--Public Involvement Information.

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in these reviews have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Changes to the permit will be addressed in Appendix D--Response to Comments

GENERAL INFORMATION	
Applicant	Chewelah Basin Ski Corporation
Facility Name and Address	49° North Ski Area; P. O. Box 166; Chewelah, WA 99109
Type of Treatment System:	Single-cell earthen lined evaporation lagoon
Discharge Location	Latitude: 48° 18' 10" N Longitude: 117° 33' 30" W.
Legal Description of Application Area	S½ of the NW¼ of Section 6, T.32 N., R. 42 E.W.M.
Contact at Facility	Name: Eric L. Bakken, Mountain Manager Telephone #: (509) 935-6649
Responsible Official	Name: John Eminger Title: President Address: 3311 Flowery Trail Road; P. O. Box 166; Chewelah, WA 99109 Telephone #: (509) 935-6649 FAX # (509) 935-4218

BACKGROUND INFORMATION

DESCRIPTION OF THE COLLECTION AND TREATMENT SYSTEM

49° North is located in East-central Stevens County, in the Colville National Forest approximately 45 miles north of Spokane and 9 miles east of the town of Chewelah. The development lies on moderately sloping ground between Calispell and Ten-Mile Creeks, at elevation between 3800 and 4000 feet. The land is leased from the U.S. Forest Service.

The development is primarily a winter recreation area consisting of ski lifts and a lodge, with cooking facilities and a bar. The Plans, at one time, involved future construction of over-night accommodations, camper trailer sites, condominiums and individual chalets. There is a small development just south of the ski facilities, called Flowery Trail Development with about 20 living units; however, those living units have separate wastewater facilities.

Only the ski lodge and the actual ski runs have been constructed, and flows are substantially below design. The design of the first phase, for which these facilities were constructed included 50 overnight lodging units, with a design population of 150 overnight guests. Average weekend flow was estimated to be about 23,000 gallons per day. However, the overnight accommodations never materialized and planning was shelved until only recently.

This year, a comprehensive Master Plan (draft) was completed for the resort, in accordance with the requirements of the U.S. Forest Service. This plan has identified an increase in skier visits over the extended planning horizon. Plans for the area call for development of a Wastewater Facility Plan during the 2002-2003 ski season, and will include recommendations for expansion of the wastewater facilities. The construction for these improvements are tentatively scheduled for 2004-2006.

HISTORY

The original engineering report was approved in 1972 for Chewelah Basin Ski Area. The report concluded that "the increase in skier population will necessitate the building of additional overnight lodging (beyond the 50 units contemplated in Phase I), condominiums and development of the single and multi-family area into ¼ acre lots." Needless to say none of the more extensive plans ever materialized; the development has undergone various management/ownership changes over the 25 or so years of its existence. It remains a popular area for skiers in the Inland Northwest, but as is the nature of ski resorts, its fortunes vary from year to year. It is the intention of the current ownership to upgrade the facilities beyond the current day-use ski resort, and as previously stated, expansion of the ski facilities and the wastewater facilities is being planned.

COLLECTION SYSTEM STATUS

The specifications indicate that the relatively small amounts of sewer pipe used in the system consists of lengths of concrete sewer pipe and steel sewer pipe. Probably no more than 600 feet of 8" or 10" sewer pipe is involved in this project. The sewer pipe runs from the ski lodge to the

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lagoons. The old force main running from the lagoon to the drainfield site is not in use. There is no indication that any problems with the collection system exist, at least not to the point where replacement needs to be considered. Any future expansion of the collection system will require the review and approval by this agency.

TREATMENT PROCESSES

The treatment system consists of an earthen lined lagoon with interior dimensions approximately 168 feet by 78 feet. The area is overgrown and has obviously not been maintained. However, the treatment site is remote and there should be no concern for unauthorized human contact. As was stated earlier, other units that were built during the initial construction have all been abandoned, with the exception of the lagoon.

DISTRIBUTION SYSTEM (INFILTRATION BASIN)

The distribution system is the existing single, unlined lagoon/infiltration basin.

RESIDUAL SOLIDS

The treatment facilities may eventually remove solids during the lifetime of the lagoon., in addition to incidental solids (rags, scum, and other debris) removed as part of the routine maintenance of the equipment. Any grit, rags, scum removed from the system will be drained and disposed of as solid waste at the local landfill. Solids removed from the lagoon will be treated and land applied under a permit from the Northeast Tri-County Health District.

GROUND WATER

The groundwater is currently being characterized in the hydrogeologic report being developed as part of the wastewater facility plan.

PERMIT STATUS

The previous permit for this facility was issued on February 1, 1998.

An application for permit renewal was submitted to the Department on December 23, 2002 and accepted by the Department on January 21, 2003.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The facility last received an inspection in approximately 1999.

During the history of the previous permit, the Permittee has exceeded the permitted influent flows based on Discharge Monitoring Reports (DMRs). However, the flow limit was based solely on existing flow conditions and a need for not overtopping the lagoon cell. The current flows also have not overtopped the cell, so we are increasing the flow limit to 5000 gallons per day. This is not anticipated to cause any harm to the environment, especially in light of the anticipated upgrade of the facilities. The previous permit and this permit will include sampling to characterize the influent and liquid in the existing lagoon.

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WASTEWATER CHARACTERIZATION

The concentration of pollutants in the discharge was reported in the permit application and in discharge monitoring reports. The proposed wastewater discharge prior to infiltration or land application is characterized, in the lagoon, for the following parameters:

Table 1: Wastewater Characterization

<u>Parameter</u>	<u>Concentration</u>
Influent Flow (maximum month)	4695 gpd
BOD (mg/l)	32 mg/l
Total Nitrogen (mg/l)	17 mg/l
pH (s.u.)	5.5 – 6.9

SEPA COMPLIANCE

Compliance with the State Environmental Policy Act (SEPA) will be required for any expansion of these facilities.

PROPOSED PERMIT LIMITATIONS

State regulations require that limitations set forth in a waste discharge permit must be either technology- or water quality-based. Wastewater must be treated using all known, available, and reasonable treatment (AKART) and not pollute the waters of the State. The minimum requirements to demonstrate compliance with the AKART standard are derived from the *Water Reclamation and Reuse Standards*, the *Design Criteria for Municipal Wastewater Land Treatment*, and Chapter 173-221 WAC.

The more stringent of the water quality-based or technology-based limits are applied to each of the parameters of concern.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

All waste discharge permits issued by the Department must specify conditions requiring available and reasonable methods of prevention, control, and treatment of discharges to waters of the state (WAC 173-216-110).

GROUND WATER QUALITY-BASED EFFLUENT LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's ground waters including the protection of human health, WAC 173-200-100 states that waste discharge permits shall be conditioned in such a manner as to authorize only activities that will not cause violations of the Ground Water Quality Standards. Drinking water is the beneficial use generally requiring the highest quality of ground water. Providing protection to the level of drinking water standards will protect a great variety of existing and future beneficial uses.

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Applicable ground water criteria as defined in Chapter 173-200 WAC and in RCW 90.48.520 for this discharge include the following:

Table 2: Ground Water Quality Criteria

Total Coliform Bacteria	1 Colony/ 100 mL
Total Dissolved Solids	500 mg/L
Chloride	250 mg/L
Sulfate	250 mg/L
Nitrate	10 mg/L
pH	6.5 to 8.5 standard units
Manganese	0.05 mg/L
Total Iron	0.3 mg/L
Toxics	No toxics in toxic amounts

The Department has reviewed existing records and is unable to determine if background ground water quality is either higher or lower than the criteria given in Chapter 173-200 WAC; therefore, the Department will use the criteria expressed in the regulation in the proposed permit. The discharges authorized by this proposed permit are not expected to interfere with beneficial uses.

COMPARISON OF LIMITATIONS WITH THE EXISTING PERMIT ISSUED FEBRUARY 1, 1998

The new permit will increase the maximum monthly flow limit to 5000 gallons per day from the existing 4000 gallons per day.

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are specified to verify that the treatment process is functioning correctly, that ground water criteria are not violated, and that effluent limitations are being achieved (WAC 173-216-110).

INFLUENT AND EFFLUENT MONITORING

The monitoring and testing schedule is detailed in the proposed permit under Condition S2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring. Monitoring will be required for selected parameters in the influent and the lagoon contents.

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The conditions of S3. are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-216-110).

FACILITY LOADING

The design criteria for this treatment facility are not based on the 1972 engineering report prepared by Delta Engineers, because only a portion of that system is currently in operation. Instead, flow limits are based on the observation by the manager that with the current 2000-2002 flow (which represents a period of recent usage by the public) the lagoons have shown no sign of overtopping its dikes. We will set limits at current flows and continue require observation of flows and lagoon levels to arrive at final flow limits. Additional justification for these numbers is the pending expansion of these facilities.

Maximum Average Month Flow	5000 gallons/day
Maximum Average Month BOD	10 lbs/day

The permit requires the Permittee to maintain adequate capacity to treat the flows and waste loading to the treatment plant (WAC 173-216-110[4]). The Permittee is required to submit an engineering report when the plant reaches its flow or loading capacity or within 5 years of projected increase in loading will achieve its flow or loading capacity. For significant new discharges, the permit requires a new application and an engineering report (WAC 173-216-110[5]).

OPERATIONS AND MAINTENANCE

The proposed permit contains condition S.5. as authorized under RCW 90.48.110, WAC 173-220-150, Chapter 173-230 WAC, and WAC 173-240-080. It is included to ensure proper operation and regular maintenance of equipment, and to ensure that adequate safeguards are taken so that constructed facilities are used to their optimum potential in terms of pollutant capture and treatment.

RESIDUAL SOLIDS HANDLING

To prevent water pollution the Permittee is required in permit condition S6. to store and handle all residual solids (grit, screenings, scum, sludge, and other solid waste) in accordance with the requirements of RCW 90.48.080 and State Water Quality Standards.

The final use and disposal of sewage sludge from this facility is regulated by U.S. EPA under 40 CFR 503 and by Ecology under Chapter 70.95J RCW and Chapter 173-208 WAC. The disposal of other solid waste is under the jurisdiction of the local health district.

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Requirements for monitoring sewage sludge and recordkeeping are included in this permit. This information will be used by Ecology to develop or update local limits and is also required under 40 CFR 503.

PRETREATMENT

WAC 173-216-110 requires that the list of prohibitions in WAC 173-216-060 be included in the permit.

GROUND WATER QUALITY EVALUATION (HYDROGEOLOGIC STUDY)

In accordance with WAC 173-200-080, the permit requires the Permittee to prepare and submit a hydrogeologic study for Departmental approval, with the pending engineering report submittal. The hydrogeologic study will be based on soil and hydrogeologic characteristics and be capable of assessing impacts on ground water. The guidelines given in "*Guidelines for Preparation of Engineering Reports for Industrial Wastewater Land Application Systems*," Ecology 1993 are appropriate for municipal land application systems.

GENERAL CONDITIONS

General Conditions are based directly on state laws and regulations and have been standardized for all industrial waste discharge to ground water permits issued by the Department.

Condition G1 requires responsible officials or their designated representatives to sign submittals to the Department. Condition G2 requires the Permittee to allow the Department to access the treatment system, production facility, and records related to the permit. Condition G3 specifies conditions for modifying, suspending or terminating the permit. Condition G4 requires the Permittee to apply to the Department prior to increasing or varying the discharge from the levels stated in the permit application. Condition G5 requires the Permittee to submit written notice of significant increases in the amount or nature of discharges (typically new industrial discharges) into the sewer system tributary to the permitted facility. Condition G6 requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents. Condition G7 prohibits the Permittee from using the permit as a basis for violating any laws, statutes or regulations. Condition G8 requires application for permit renewal 60 days prior to the expiration of the permit. Condition G9 requires the payment of permit fees. Condition G10 describes the penalties for violating permit conditions.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, and to protect human health and the beneficial uses of waters of the State of Washington. The Department proposes that the permit be issued for 3 years.

REFERENCES FOR TEXT AND APPENDICES

Faulkner, S.P., Patrick Jr., W.H., Gambrell, R.P., May-June, 1989. Field Techniques for Measuring Wetland Soil Parameters, Soil Science Society of America Journal, Vol. 53, No.3.

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Washington State Department of Ecology, 1993. Guidelines for Preparation of Engineering Reports for Industrial Wastewater Land Application Systems, Ecology Publication # 93-36. 20 pp.

Washington State Department of Ecology and Department of Health, 1997. Water Reclamation and Reuse Standards, Ecology Publication # 97-23. 73 pp.

Washington State Department of Ecology.

Laws and Regulations(<http://www.ecy.wa.gov/laws-rules/index.html>)

Permit and Wastewater Related Information
(<http://www.ecy.wa.gov/programs/wq/wastewater/index.html>)

Washington State Department of Ecology, 1996. Implementation Guidance for the Ground Water Quality Standards, Ecology Publication # 96-02.

Washington State University, November, 1981. Laboratory Procedures - Soil Testing Laboratory. 38 pp.

APPENDICES

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page one of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public notice of application was published on July 3 and July 10, 2002 in the Colville Statesman-Examiner to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

This permit was written by Wayne Peterson.

APPENDIX B--GLOSSARY

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Ammonia--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation--The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD₅--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD₅ is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass--The intentional diversion of waste streams from any portion of the collection or treatment facility.

Chlorine--Chlorine is used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

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Construction Activity--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring --Uninterrupted, unless otherwise noted in the permit.

Engineering Report--A document, signed by a professional licensed engineer, which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Fecal Coliform Bacteria--Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

Grab Sample--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Maximum Daily Discharge Limitation--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Soil Scientist--An individual who is registered as a Certified or Registered Professional Soil Scientist or as a Certified Professional Soil Specialist by the American Registry of Certified Professionals in Agronomy, Crops, and Soils or by the National Society of Consulting Scientists or who has the credentials for membership. Minimum requirements for eligibility are: possession of a baccalaureate, masters, or doctorate degree from a U.S. or Canadian institution with a minimum of 30 semester hours or 45 quarter hours professional core courses in agronomy, crops or soils, and have 5,3,or 1 years, respectively, of professional experience working in the area of agronomy, crops, or soils.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

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Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Dissolved Solids--That portion of total solids in water or wastewater that passes through a specific filter.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent pollution of the receiving water.

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APPENDIX C—SITE MAP

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APPENDIX D--RESPONSE TO COMMENTS